

Notice of Allowability	Application No.	Applicant(s)	
	10/666,835	MORIMOTO ET AL.	
	Examiner	Art Unit	
	Sarah Song	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 25 July 2005.
2. ☒ The allowed claim(s) is/are 2-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/041,087.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Eric Nelson on September 27, 2005.

The application has been amended as follows:

Please replace claim 9 with the following:

9. A variable optical attenuator comprising:

a first optical part;

a second optical part opposed to said first optical part with a predetermined gap therebetween; and

optical coupling efficiency adjusting means for adjusting a coupling efficiency between said first optical part and said second optical part while maintaining light propagating between said first optical part and said second optical part point-symmetric in mode field shape,

wherein said optical coupling efficiency adjusting means adjusts the coupling efficiency between said first optical part and said second optical part for an adjustment in light power,

wherein said optical coupling efficiency adjusting means includes:

a lens system arranged between said first optical part and said second optical part so that an optical axis thereof coincides with those of said first and second optical parts; and

moving means for relatively moving a lens constituting said lens system along the direction of the optical axes of said first and second optical parts with respect to said first and second optical parts; and

wherein, where said attenuator has an optical attenuation of 31.2 dB, polarization dependent loss of said attenuator is suppressed to 0.2 dB or less in a wavelength range of from 1530 nm to 1580 nm both inclusive.

Please replace claim 10 with the following:

10. A variable optical attenuator comprising:

a first optical part;

a second optical part opposed to said first optical part with a predetermined gap therebetween; and

optical coupling efficiency adjusting means for adjusting a coupling efficiency between said first optical part and said second optical part while maintaining light propagating between said first optical part and said second optical part point-symmetric in mode field shape,

wherein said optical coupling efficiency adjusting means adjusts the coupling efficiency between said first optical part and said second optical part for an adjustment in light power,

wherein said optical coupling efficiency adjusting means includes:

a lens system arranged between said first optical part and said second optical part so that an optical axis thereof coincides with those of said first and second optical parts; and

moving means for relatively moving a lens constituting said lens system along the direction of the optical axes of said first and second optical parts with respect to said first and second optical parts; and

wherein, where said attenuator has an optical attenuation of 30 dB, wavelength dependency of the optical attenuation is suppressed to 0.36 dB or less in a wavelength range of from 1530 nm to 1580 nm both inclusive.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance: Gransden et al. and Shen et al. disclose variable optical attenuators providing a means for adjusting a coupling efficiency while maintaining light propagating between a first and second optical part point-symmetric in shape. However, claims 2-15 are allowable over the prior art of record since the prior art of record does not disclose or fairly suggest the variable optical attenuator comprising means for adjusting a coupling efficiency between said first optical part and said second optical part while maintaining light propagating between said first optical part and said second optical part point-symmetric in mode field shape the optical coupling efficiency adjusting means additionally including a lens system arranged between said first optical part and said second optical part so that an optical axis thereof coincides with those of said first and second optical

Art Unit: 2874

parts; and moving means for relatively moving a lens constituting said lens system along the direction of the optical axes of said first and second optical parts with respect to said first and second optical parts.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Terminal Disclaimer

3. The terminal disclaimer filed on July 25, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 6,636,683 has been reviewed and is accepted. The terminal disclaimer has been recorded.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sarah Song
Patent Examiner
Group Art Unit 2874